Application Serial No. 09/901,121 Submission with RCE dated October 20, 2004 Reply to final Office action of April 20, 2004

## Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 through 37 (Cancelled).

38. (Currently amended) A method of performing immunohistochemistry, in situ hybridization, fluorescent in situ hybridization, a Southern hybridization, a Northern hybridization, a Western annealing, or an ELISA, wherein said method comprises:

providing a sample;

performing a process on said sample selected from the group consisting of: immunohistochemistry.

in situ hybridization,

fluorescent in situ hybridization.

- a Southern hybridization,
- a Northern hybridization,
- a Western annealing, and
- an ELISA; and

using ultrasound at a frequency of at least 100 kHz.

- 39. (Previously presented) The method of claim 38 wherein said immunohistochemistry, in situ hybridization, or fluorescent in situ hybridization is performed on a solid phase, said solid phase being selected from the group consisting of a tissue section, tissue microarray, and a chip.
- 40. (Original) The method of claim 38 wherein said Southern hybridization, Northern hybridization, Western annealing or ELISA is performed on a membrane, a microarray or a DNA chip.
- 41. (Previously presented) The method of claim 38 wherein said method is performed on a solid phase, a microarray, a membrane or a DNA chip and wherein said solid phase, microarray, membrane or DNA chip receives ultrasound power of at least 0.01 W/cm<sup>2</sup>.
- 42. (Previously presented) The method of claim 38 wherein a power of said ultrasound is in a range of 0.01-100 W/cm<sup>2</sup>.
  - 43. (Previously presented) The method of claim 38 wherein said frequency is in a range

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of 100 kHz to 50 MHZ.

- 44. (Previously presented) The method of claim 38 wherein two or more ultrasound transducers are used to produce said ultrasound.
- 45. (Previously presented) The method of claim 38 wherein said method is performed on a solid phase, membrane, microarray or DNA chip and wherein one or more ultrasound transducers are used to produce an ultrasound field that allows at least a portion of said solid phase, membrane, microarray or DNA chip to receive a uniform frequency and intensity of ultrasound.
- 46. (Original) The method of claim 38 wherein said ultrasound is produced by a transducer comprising one or more heads.
- 47. (Previously presented) The method of claim 46 wherein one or more of said heads are capable of emitting a frequency selected from the group consisting of a single frequency and a wideband frequency.
- 48. (Previously presented) The method of claim 38 wherein said method is performed on a sample, a tissue section, or a membrane.
- 49. (Original) The method of claim 46 wherein one head on a single transducer produces a frequency different from a frequency produced by a second head on said single transducer.
- 50. (Original) The method of claim 46 wherein one head on a single transducer produces an intensity different from an intensity produced by a second head on said single transducer.
- 51. (Original) The method of claim 44 wherein each of said transducers produces an ultrasound frequency different from an ultrasound frequency produced by at least one other transducer.
- 52. (Original) The method of claim 44 wherein each of said transducers produces an ultrasound intensity different from an ultrasound intensity produced by at least one other transducer.
- 53. (Previously presented) The method of claim 48 wherein a range of frequencies is applied to said sample, said tissue section, or said tissue.
  - 54. (Previously presented) The method of claim 48 wherein said method is performed

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on a solid phase, membrane, microarray or DNA chip and wherein said transducers are arranged around said solid phase, membrane, microarray or DNA chip in a two-dimensional arrangement.

- 55. (Previously presented) The method of claim 48 wherein said method is performed on a solid phase, membrane, microarray or DNA chip and wherein said transducers are arranged around said solid phase, membrane, microarray or DNA chip in a three-dimensional arrangement.
- 56. (Previously presented) The method of claim 48 wherein said method is performed on a solid phase, membrane, microarray or DNA chip and wherein said solid phase, membrane, microarray or DNA chip is rotated.
- 57. (Previously presented) The method of claim 48 wherein said method is performed on a solid phase, membrane, microarray or DNA chip and wherein said transducer revolves around said solid phase, membrane, microarray or DNA chip.
- 58. (Original) The method of claim 38 wherein said ultrasound is produced as a continuous signal.
  - 59 and 60. (Cancelled)
  - 61. (Original) The method of claim 38 wherein said ultrasound is produced in pulses.
  - 62 and 63. (Cancelled)
- 64. (Previously presented) The method of claim 61 wherein said frequency varies in a range of 0.1-50 MHZ.
  - 65. (Original) The method of claim 61 wherein said pulses vary in intensity.
- 66. (Previously presented) The method of claim 38 wherein said ultrasound is produced as a continuous signal.
  - 67 (Cancelled)
- 68. (Previously presented) The method of claim 66 wherein said signal varies in intensity over time.
- 69. (Previously presented) The method of claim 38 wherein said method is performed on a solid phase, membrane, microarray or DNA chip wherein said solid phase, membrane, microarray or DNA chip receives ultrasound of a power in the range of 0.01-100 W/cm<sup>2</sup>.

70 through 91 (Cancelled).